

REMARKS ON BANDAGING

By LLOYD A. CLARY, M. D.

It takes much practice to be able to apply a bandage properly, but it is well worth while to learn.

Bandage should stay on until you are ready to dress the part again.

It may seem that the subject of bandaging is too trivial to engage the attention of the medical practitioner. True, it is an elementary subject, taught as part of the course in minor surgery at our medical schools. Being elementary, it is a subject treated as many other elementary subjects are treated, namely, slighted—passed over as not worthy of serious thought. The consequence of this attitude is that many of our profession put on a bandage in a slipshod, crude manner.

I do not believe it is beneath the dignity of any practitioner of medicine—even the greatest surgeon—to put on a bandage; but I do believe it is beneath his dignity to put one on carelessly. Consequently, I offer no apology for presenting these few remarks designed to call attention to the art of bandaging in general and some practical features in particular.

To my mind it is lamentable that the medical student is not more thoroughly trained in putting on a bandage that looks neat, that accomplishes the purpose for which it is put on, is comfortable, and stays on. The same may be said of student nurses. If you do not believe that the average nurse, student or graduate, puts on a miserable bandage, just observe her work for a week around any hospital. Her efforts are haphazard to a degree.

There may be some excuse for the nurse. She is not called upon to use the bandage as frequently as the doctor, unless she be an office nurse in an office doing industrial or other accident work. A nurse so placed may be—generally is—very adept through much practice. I have seen office girls, with no training as nurses, who were very expert in this art.

As for the nurse, the fault is not so much with herself as with the management of the hospital where she trains. How many hospitals really teach their student nurses how to use a bandage properly? Again, how many supply her with proper bandages? Many hospitals buy their supplies with the idea of cost paramount. These hospitals purchase large quantities of bandages of inferior quality, little attention being paid to sizes. Ask a nurse to bring you a bandage for a finger and see how many times she brings a bandage two, two and a half, three, or even four inches wide—and it very likely is made of the flimsiest, wide-mesh gauze. She is not to blame—there are no narrow bandages to be found.

What does your patient think when you attempt to use such a bandage on his finger? Have you made a good impression? Perhaps you call for a knife, and with it saw the bandage in two. A ragged, frayed excuse for a bandage results. Compare your patient's attitude when your bandage slips off and he comes in next day with one he has put on himself, to his attitude when you put one on that stays and is neat and comfortable.

A patient said, "Doctor, you sure do know how to put on a good bandage." Was that compliment

worth while? Was it too trivial a matter to justify the care necessary to elicit it? I do not think so. We are judged many times in the more important undertakings of our profession by just such little things.

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Many enlisted men in the medical departments of the army and navy can give the average medico cards and spades and still take all the tricks in bandaging. Why? Bandaging has been hammered into them by constant practice; it is considered an important subject; mistakes are criticized severely. The recruit at bandage practice who puts a bandage around a patient's neck that nearly chokes the patient is called down by his non-com. in language he surely will remember; he will not make that mistake again. A little of such drill would be good for our medical students and student nurses.

I am not going to review the rules of bandaging or go into detail as to the various forms. Any good book on minor surgery gives explicit instructions, with beautiful cuts showing how to apply spiral reversed, spica, gauntlet, T-bandages and all the others. I do wish, however, to emphasize a few things I have learned about bandaging from practical experience.

1. First, as to cost.

In this day of expensive living it behooves the doctor to economize on surgical supplies when he can. That does not mean he should use inferior goods. However, it is surprising the difference in cost even between the one and a half and the two-inch bandage. The one-inch bandage costs even less. I have been in doctors' offices where there was no bandage smaller than the two-inch. That bandage is, perhaps, the most useful for all purposes, if we limit our supply to one size. But there is no reason why it should be used for fingers, when the smaller sizes are better adapted and so much cheaper. A saving of from 25 to 50 cents a dozen means considerable in a year. The point is to use a bandage just wide enough for the part to be covered, and no wider. This makes for neatness, as well as low cost.

Some practitioners buy the wide rolls of bandage—24-inch—which they cut with mitre-box and saw into whatever widths they wish. That is the cheapest way to buy bandages. To my mind, however, these bandages represent economy carried to an extreme; they are apt to give a ragged, frayed appearance, with strands constantly coming off on the clothing.

2. Free-end or loose-end bandaging. (See illustration No. 1.)

In putting on a bandage one of the most important considerations is to have that bandage stay on until you are ready to dress the part again. It is very embarrassing to have a bandage slip off within a few hours after it is applied. I never have seen the point I am about to cover mentioned or illustrated in any text book; it is one of the things I have learned from experience, and I am frank to say the suggestion came from a patient.

Let us say you are going to bandage a hand and wish to start your bandage around the wrist. In place of making one or more turns around the wrist in the usual manner, if you will start with, say, six inches of bandage hanging loose—or, in other words,

start some six or eight inches away from the end of your bandage, allowing the end to hang free, make one or two turns around the wrist (one turn below and one above the loose end), continue with your bandaging of the hand and come back to the wrist in the usual way, make a turn or two around the wrist again, then tie to the loose end—*your bandage will stay on*. The explanation is simple. You have tied two ends together, one of which comes from the buried portion of the wrist turns. Consequently, that loose end is anchored in place by the turns covering it, and it keeps your upper or outer end from slipping. This loose-end method is applicable to practically all bandages. Since adopting this method I have mentioned it to a number of surgeons, but none of them had been using it.

Another advantage in leaving the loose end is in the use of a bandage for one or more fingers, where you wish to start the bandage around the wrist. In coming down to the finger make your bandage start down directly over the middle of the dorsal surface of the wrist, after a turn *above* the loose end, finish your finger bandage, then return in the same place to the wrist, pass *above* your loose end again, then around the wrist and tie. You thus have the "pull" from the wrist over the back of the hand in the mid-line. Your bandage is not sagging on either side of the hand, as it usually does if not so anchored.

3. Finger bandaging. (See illustration No. 2.)

The vast majority of our accident cases involve the hands, especially the fingers. With all our experience in dressing fingers, it seems we should learn to dress them properly.

Quite recently I had the fingers of both hands badly burned. It was necessary for me to dress my own fingers frequently, sometimes three or four times daily. I found that when I put on a bandage myself it felt much more comfortable—even stayed on better—than when applied by any one of the doctors who dressed my hands from time to time. As for comfort, the trouble seemed to be that the bandage was applied with too much tension in one or more of its turns, and the doctor sometimes hurt me by pressure while applying it. Once in a while the doctor would jump from base of finger to end, or vice versa, with his bandage in a random sort of way, and this always created uneven pressure. Of course, we all know that the hat salesman never puts a hat on our heads the way we want it on. We must readjust it to suit ourselves. Perhaps that same feeling of wanting to do things my own way had something to do with the discomfort. Still, I do not think I was excessively finicky—burned fingers are darned sore.

As for the slipping off. It seems rather ridiculous to put a bandage on a finger that is covered with ointment, and anchor the end of the bandage with a scrap of adhesive plaster. The ointment is sure to work through and the plaster's adhesive properties soon are lost. Better leave the end of the first turn loose, as described above, and tie on the dorsal surface. The knot is small and your bandage will "stay put." Thus applied, it does not have to be uncomfortably tight in order not to slip.

Another thing I noticed about my fingers. They were tied up so long that, quite naturally, they became stiff. But one finger would progress more rapidly

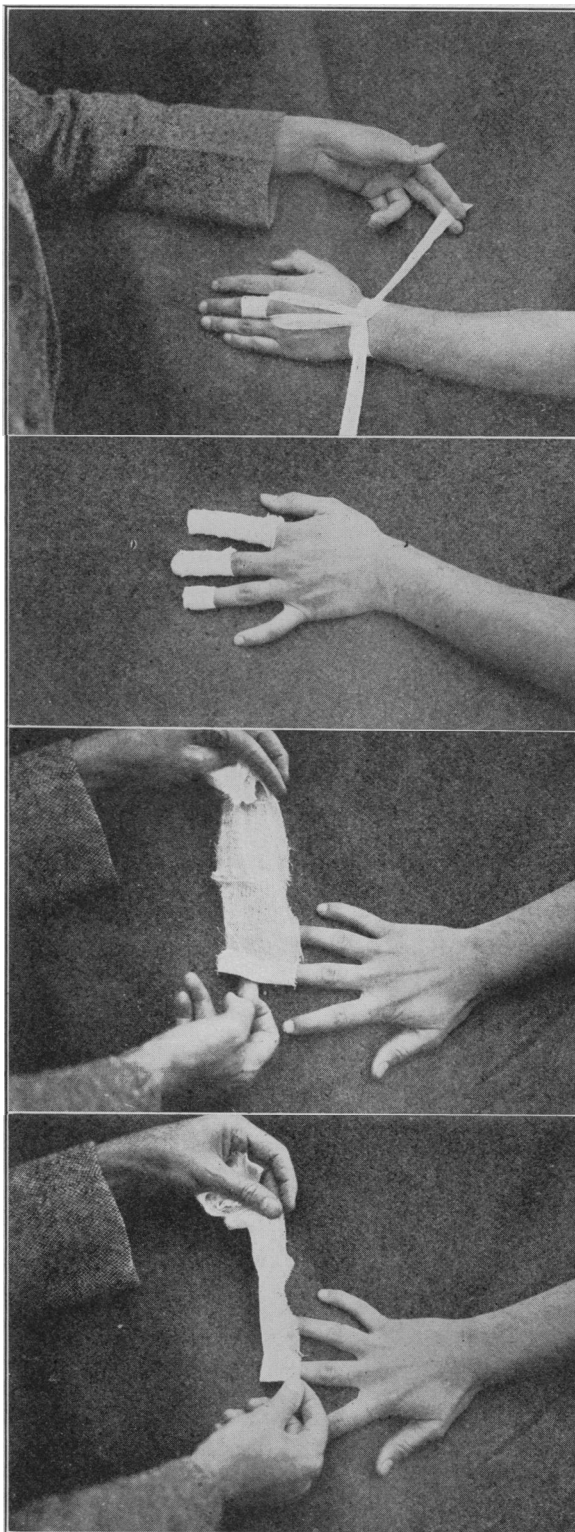


Illustration No. 1—This shows "loose end" bandaging. The end held between two fingers on the left is the "loose end," or bottom. It is the first turn of the bandage around the wrist, and, when tied to the other end, anchors the bandage firmly in place and prevents slipping. This illustration also shows how this method prevents the bandage from slipping off, sagging at the sides of the hand as the strands from the finger are both passed above the "loose end," pulley-wise, the "pull" from the wrist being in the mid-line.

Illustration No. 2—In this illustration the index finger is immobilized in both joints. The middle finger is immobilized in only one joint, the second. The "loose end" method (see illustration No. 1) is used on both these fingers. The photograph shows that this method is applica-

than its neighbor. Consequently, when two or more were included in one bandage, the finger that was healing most rapidly was being limited in motion and held back by the others. So, to allow freer movement, I started bandaging each finger separately. From that moment they became more comfortable. Two or more fingers bandaged together are held rather stiffly. The same fingers bandaged separately may be moved independently of each other, and much nerve-wracking muscular tension thereby be avoided.

Wrap up even a normal finger for weeks and months, and you are sure to get muscular atrophy and stiffness. If the finger is not normal, but is burned or infected, you have, in addition, a certain amount of destruction of tissue with scar formation. In my case the cicatricial tissue was on the dorsal surface. Consequently, it was not only difficult to flex my fingers, but also very painful, for the tissues did not "stretch" well. Quite evidently the thing to do was to begin passive and active motion as soon as possible. Bandaging each finger separately aided in carrying out these exercises. But I did not stop there. I began to crowd my bandages farther and farther towards the ends of my fingers. When healing had progressed to the point where I could leave the first joint uncovered, I applied my bandage distal to that joint. Thus I allowed motion in the first joint, and the stiffness disappeared more rapidly. The same applied to the second joint. The soreness and infection, lingering longest about the nails, necessitated keeping the nail covered longer than the rest of the finger. But there was no sense in bandaging the whole finger just to cover the nail, for, in so doing, *two* joints would be immobilized. It is no trouble to apply a small bandage around the third phalanx and make it stay there. Such a bandage does not interfere with motion, excepting to some extent in the last joint. When the bandage is finally removed the finger has regained its normal function to a much greater extent than with the customary bandage, which limits motion in both the joints.

In place of the recurrent turns of bandage over the end of a finger, which are rather bunglesome if we wish merely to cover the third phalanx, it is quite easy to make a few turns with gauze around the finger, allowing the gauze to project well beyond the end of the finger to form a cylinder of gauze. This cylinder of gauze is turned back over the dorsal surface of the finger and affords a covering for the tip of the finger. It is held in place by a small circular bandage. (See illustrations Nos. 3 and 4.)

There are well-defined rules of bandaging. The rule to "let the bandage go where it wants to go" is one of the best. But with all the rules, each sur-

geon will develop more or less a technic of his own in applying a bandage. My plea is to make that technic as nearly perfect as possible; to avoid slovenliness in bandaging; to give the subject the thought it deserves. The surgeon who learns to put a bandage on properly will have, as his reward, the consciousness of a job well done. In addition, he will have a grateful patient.

TWO YEARS' EXPERIENCE WITH MERCUROCHROME—220 IN OPHTHALMIC THERAPEUTICS.

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In corneal ulcer, if infected, the mercurochrome aids greatly in getting the ulcer clean and seems to stimulate the growth of epithelium as does scarlet red on skin ulcers.

In chronic dacryocystitis where there is a mucopurulent discharge from the sac it may be changed to a simple mucus discharge in a couple of days by the instillation of the mercurochrome solution.

In summing up, one may say that in the 2 per cent solution or mercurochrome we have an unusually non-irritating and penetrating powerful antiseptic for use in ophthalmic therapeutics.

Mercurochrome is not to be thought of as a substitute for any of the well known therapeutic agents which we now possess, but rather as a valuable addition to our present remedies.

Two years ago my attention was called to the use of mercurochrome in a case of serpiginous ulcer of the cornea and the results were so satisfactory that I have used it almost continuously since that time in various other affections. Several facts were noted which may prove of value to those who have not yet used the drug extensively.

Mercurochrome is one of the dye antiseptics, and for this reason is disliked by many ophthalmic surgeons. But if one is careful in its application, staining of the outside surface of the lid may be prevented. Coating the skin surface with vaseline before application helps in this regard, or the stain may be removed by the use of two per cent potassium permanganate solution followed by five per cent oxalic acid solution as recommended by the manufacturers.

I used a two per cent solution of mercurochrome, made up fresh every week, and kept in an amber or blue bottle. Upon instilling a drop of this into the normal eye it is noted that there is no staining of either conjunctiva or cornea. Any mucus present will stain a deep red. Where the corneal epithelium is only so damaged as to stain slightly with fluorescein, and the deeper portions of the cornea are normal, there will be no staining with mercurochrome. But if the epithelium is entirely denuded with the corneal substance exposed there will be a deeply stained area. Even though the epithelium be intact over an area of active deep infiltration of the substance the dye will penetrate and stain this affected area.

Clapp and Martin have discussed the use of mercurochrome in gonorrheal ophthalmia, and Lancaster et al in the pyogenic infections. Their results lead them to draw very favorable conclusions. I have found that in the acute catarrhal conjunctivitis cases, particularly those where the pneumococcus is found, the discharge clears up most rapidly under the use of the ordinary silver nitrate solution followed by the mercurochrome, after the excess silver nitrate has been washed away with normal saline. It has also

ble to fingers, as the knots are not conspicuous or cumbersome. With this method there is no fear of slipping off. The ring finger is bandaged distal to the second joint, to show that it is not necessary to cover the whole finger when the trouble is confined to the terminal phalanx. The subject used had short terminal phalanges, and the one-inch bandage used encroached somewhat on the second joint. However, the finger could be flexed at that joint. This picture illustrates the method advocated of bandaging the fingers separately and of crowding the bandages towards the ends of the fingers as soon as possible.

Illustration No. 3—Shows cylinder of gauze around distal phalanx and projecting beyond end of finger. When turned back, forms covering for end of finger and pad over nail.

Illustration No. 4—Shows cylinder of gauze turned back. Dressing completed by a turn of the gauze shown in left hand, followed by a few turns of narrow bandage and a strip of adhesive.